

### **REMARKS**

Claims 1-6, 8-12, 14-18, 27, 20 and 30 are pending in the application. By this Amendment, claims 1, 5, 6, 8, 9, 14 and 18 are amended, claim 28 is deleted, and claims 29 and 30 are added. Reconsideration and withdrawal of the rejections in view of the foregoing amendments and the following remarks is respectfully requested.

#### **I. The Restriction Requirement**

The Office Action indicates that claim 28 has been withdrawn from consideration. Accordingly, by this Amendment, claim 28 is canceled.

#### **II. Objections to the Drawings and the Specification**

The Office Action objects to the drawings and to the specification because the specification, at page 18, line 21, refers to reference number 303, instead of reference number 203. In the Amendment filed August 25, 2008, Applicant attempted to correct the reference number, however, the Amendment included a typographical error that instructed the Patent Office to place a corrected version of the paragraph containing the error on page 16, instead of page 18. The Patent Office is requested to place the corrected paragraph set forth in the August 25, 2008 Amendment at the proper location on page 18. To the extent this paragraph has been added to page 16, as a result of the August 25 Amendment, the Patent Office is requested to remove this paragraph from page 16.

The Patent Office also objected to the drawings because they allegedly fail to show the claimed “cage.” The claimed cage is presently shown in Figure 3. Figure 3 shows a diaphragm valve 8. The flexible member of the diaphragm valve is identified with reference number 9, which is positioned on the left side of the diaphragm valve. The claimed cage is the arc-shaped element positioned immediately to the right of the flexible member 9. The cage is positioned between the flexible member 9 and the plunger element 10. The cage is a substantially rigid member which spreads a force from the plunger across a large surface area of the flexible member 9. As a result, when a backpressure generated by the plunger 10 presses against the flexible member 9, the force will not deform the flexible member where it is connected to the plunger.

In view of the foregoing, withdrawal of the objections to the specification and the drawings is respectfully requested.

### III. Claims 1-6, 8-12, 18 and 27 Are Allowable Over Chen

The Office Action rejects claims 1-6, 8-12, 18 and 27 under 35 U.S.C. §102(b) over Chen (U.S. Patent No. 4,945,944). The rejection is respectfully traversed.

The Office Action refers to the elements illustrated in Figure 3 in rejecting the claims. As shown therein, the Chen valve includes a first diaphragm member 51 which includes a small aperture 511 therein. The valve also includes an inlet hole 41 which allows water to move from a chamber 5 on a first side of the inlet hole 41 to a chamber 61 on a second side of the inlet hole 41. A flexible member 6 is positioned on the second

side of the inlet hole 41, and the flexible member 6 can move to close off the inlet hole 41.

Claim 1 is directed to a valve system for use with a variable head of fluid. Claim 1 recites a first diaphragm, and means for controlling a position of the first diaphragm based on a fluid pressure associated with a variable head of a first fluid. Claim 1 further recites that the controlling means includes a movable flexible member and a substantially rigid and curved movable cage that is adapted to prevent a back pressure from creating a localized distortion of the flexible member. As explained above, the cage helps to spread a back pressure force across a large surface area of the flexible member to prevent localized distortion of the flexible member.

Chen lacks a substantially rigid and curved movable cage as recited in claim 1. For at least this reason, it is respectfully submitted that claim 1 is allowable. claims 2-6, 8-12, 18 and 27 depend from claim 1 and are allowable for the same reasons, and for the additional features which they recite. Accordingly, withdrawal of the rejection is respectfully requested.

IV. Claims 14 and 15 are Allowable Over Chen and Hostetler

The Office Action rejects claims 14 and 15 under 35 U.S.C. §103(a) over Chen, in view of Hostetler (U.S. Patent No. 4,344,456). The rejection is respectfully traversed.

Claims 14 and 15 depend from claim 1 and include all the features of claim 1. As noted above, Chen fails to disclose or suggest a valve having the claimed cage. Hostetler

fails to cure this deficiency of Chen. Accordingly, it is respectfully submitted that claims 14 and 15 are allowable for the same reasons discussed above in connection with claim 1. Withdrawal of the rejection is respectfully requested.

V. Claims 16 and 17 are Allowable Over Chen and Tanikawa

The Office Action rejects claims 16 and 17 under 35 U.S.C. §103(a) over Chen, in view of Tanikawa (U.S. Patent Publication No. 2002/0124880). The rejection is respectfully traversed.

Claims 16 and 17 depend from claim 1 and include all the features of claim 1. As noted above, Chen fails to disclose or suggest a valve having the claimed cage. Tanikawa fails to cure this deficiency of Chen. Accordingly, it is respectfully submitted that claims 16 and 17 are allowable for the same reasons discussed above in connection with claim 1. Withdrawal of the rejection is respectfully requested.

VI. Conclusion

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. If the Examiner believes that additional changes are required to place the application in condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

The Commissioner is authorized to charge the undersigned's deposit account #14-1140 in whatever amount is necessary for entry of these papers and the continued pendency of the captioned application.

Respectfully submitted,

**NIXON & VANDERHYE P.C.**

/JOHN C. EISENHART/

John C. Eisenhart

Attorney Reg. No. 38,128

901 North Glebe Road, 11th Floor

Arlington, VA 22203-1808

Telephone: (703) 816-4000

Facsimile: (703) 816-4100

JCE:knh